

Autodesk Data Management Server 5

Implementation Guide

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Introduction

This document describes the best practices for implementing the Autodesk® Data Management Server. This document covers the recommend methods for deploying Autodesk Data Management Server. Although these are not the only methods for deploying the software, they are the most robust and easiest to maintain.

Use this guide as a starting point. You can always change the configuration later if your business demands it.

NOTE Autodesk recommends that you contact your reseller to perform a professional implementation of Autodesk Data Management Server if you have any questions about this document.

In this chapter

- [Key Terms](#)
- [Understanding Vault Architecture](#)
- [Autodesk Data Management Server](#)
- [Autodesk Vault Clients](#)
- [Autodesk Data Management Utilities](#)

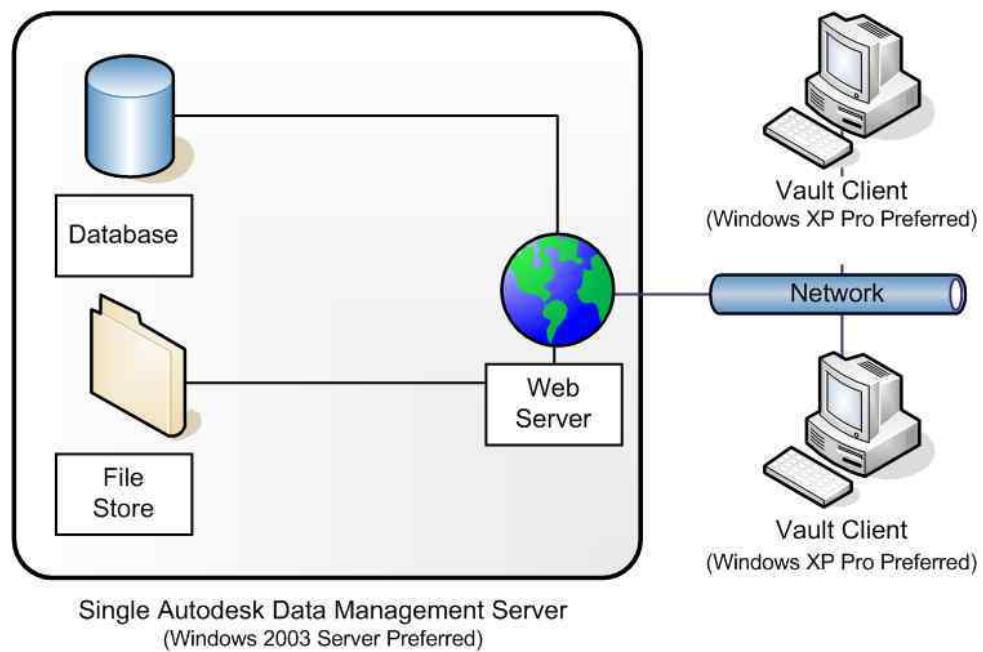
Key Terms

Term	Definition
Autodesk Data Management Server	The server used in conjunction with Autodesk® Vault, Autodesk® Productstream™, and Content Center for storing files and version data.
Autodesk Web Server	A Web server that can be used when one computer will host both the Autodesk Data Management Server and vault client in a stand alone environment, such as an evaluation.
Clients	Applications that access the Autodesk Data Management Server. These include stand alone applications such as Autodesk Vault Explorer and Autodesk Productstream as well as integrated application add-ins such as Autodesk Vault for Inventor or Autodesk Vault for Microsoft® Office.
Data management	A means to organize and track files and design modifications through the design process.
Autodesk Vault Explorer	The standalone client for Autodesk Vault used to organize information in the vault. This interface can be used to manage any Microsoft® Windows® file in Autodesk Vault
Microsoft® Internet Information Services (IIS)	A Microsoft® Web server necessary for doing a full implementation of the Autodesk Data Management Server.
Vault	The logical combination of a vault database and a vault file store that contains all of the information managed by Autodesk Vault.

Term	Definition
	Each installation of Autodesk Vault can maintain several independent vaults. A single client can connect to several different vaults, but not simultaneously.
Vault Manager	An application that performs vault system administrative tasks, such as data back up and restore.
Web Server	A server process running on the Autodesk Data Management Server that responds to requests from vault clients.
Web Service	An API for a client to communicate with a web server application, such as the Autodesk Data Management Server.

Understanding Vault Architecture

Two primary components make up the Autodesk Data Management Server and vault clients. The following figure illustrates the basic configuration of the components.



Autodesk Data Management Server

Autodesk Data Management Server is the server that works in conjunction with Autodesk data management solutions: Autodesk Vault, Autodesk Productstream, and Content Center libraries. It tracks all of the files, BOM data, and properties manages users and permissions. There are three key components to the server:

- Web server
- Database server
- File store

The server contains a single database instance that hosts both vaults and Content Center libraries.

Web Server

There are two different Web servers supported by the Autodesk Data Management Server:

- Microsoft Internet Information Services (IIS)
- Autodesk Web Server (AWS)

The Autodesk Web Server is a light-weight Web server intended for a single-user environment. The AWS only works for configurations where the entire data management environment is installed on a single computer, that is, server and clients with CAD software on the same machine. AWS is also used for accessing Content Center libraries when you are disconnected from your network or if you are a stand alone Inventor user working in a non-collaborative environment.

The Autodesk Data Management Server is actually a Web application that uses Internet Information Services to manage the communication between the clients and the server via Web services. The interaction between the clients and the server is similar to the way a web browser communicates with a site on the Internet. The Web services use standard HTTP methods, communicating over the Web server port 80 by default.

Database Server

The database server keeps track of all the relationships between data. It acts like a library card catalog, containing indexes and pointers of where to find related information. By default, the Autodesk Data Management Server installs a limited release of Microsoft® SQL Server 2000 called Microsoft SQL Server Desktop Engine (MSDE). MSDE can be upgraded to full SQL Server at any time.

File Store

The file store and the database server work with each other. The database provides the index information for where files are located and the file store is the secure location on the server where the files are actually located.

Autodesk Vault Clients

A vault client is any stand alone application or integrated add-in that connects to the Autodesk Data Management Server to access files and perform vault operations.

An example is the Inventor add-in. When data is added to a vault using the Inventor add-in, the add-in preserves all of the complex relationships that are created by assemblies, drawings, presentations, and other files.

Autodesk Vault Explorer

Vault Explorer is a general purpose application for interacting with a vault on the Autodesk Data Management Server. You can browse the complete vault structure, add any file to the vault, and perform most other file-based operations, depending on your level of permission.

Autodesk Vault Add-ins for Design Applications

Add-in clients provide basic vault functions within the environment of a parent application. Add-ins maintain application-specific data relationships when adding files to a vault.

There are add-ins available for Autodesk and non-Autodesk design applications.

NOTE As a general rule, if an integrated client is available for a particular application, managing files using that client minimizes loss of data, such as the assembly relationships. Autodesk recommends that you use integrated clients whenever possible.

Microsoft Office Add-in

The Microsoft Office add-in performs basic vault functions on documents, spreadsheets, and other non-CAD data within any of the Microsoft Office applications: Microsoft® Word, Microsoft® Excel, and Microsoft® Power Point®.

Content Center

Content Center provides access to Autodesk Inventor Content Center libraries. Content Center libraries are stored on the Autodesk Data Management Server.

Autodesk Data Management Utilities

The Autodesk Data Management Server utilities are used to perform maintenance, diagnostics, and batch file uploading.

Autodesk Vault Manager

Autodesk Vault Manager includes tools for maintaining users, vaults, and Content Center libraries. Use Vault Manager to purge out-dated versions from a vault and to schedule routine back ups of vault data.

Autodesk Server Diagnostic Tool

The Autodesk Server Diagnostics Tool performs a set of checks to identify possible Autodesk Data Management Server issues and gathers system information to help diagnose the problem.

Autodesk Autoloader

Autodesk Autoloader uploads an entire Autodesk Inventor project to a vault located on an Autodesk Data Management Server. Use Autoloader to move large Inventor projects into a vault. Legacy Inventor projects from Inventor 5.3 and newer can be uploaded using Autoloader.

NOTE Autodesk Autoloader is currently only available for Autodesk Inventor.

Installing Autodesk Data Management Solutions

2

If you are installing Autodesk® Data Management Server for the first time, follow the procedures in this chapter to prepare for the installation. There are several factors to consider when determining the configuration of the system as well as important recommendations to help ensure a successful deployment.

NOTE If you are upgrading from a previous version of Autodesk Data Management Server, skip this chapter and go to Chapter 3, Upgrade to Autodesk Data Management Server 5. Important procedures are provided to ensure a successful upgrade.

In this chapter

- [Setup Overview](#)
- [Installation Requirements](#)
- [Web Services Software](#)
- [System Configuration](#)
- [Server Installation](#)

Setup Overview

Before installing, prepare the environment for the Autodesk Data Management Server and client software.

- Verify system requirements for the operating system, hardware and other requirements, and Web services software
- Verify compatibility with other software installed on the system
- Determine the vault system configuration best suited for your use
- Run the server pre-installation checks and resolve any issues, and then continue with the server software installation

NOTE It is important that you read the System Configuration section if you are considering multiple vaults.

Installation Requirements

Autodesk Data Management Server supports approximately 10 simultaneous vault clients using the MSDE database. Additional users can be supported using Microsoft® SQL Server 2000 (Standard or Enterprise Edition), SQL Server Express, or Microsoft SQL Server 2005 (Workgroup, Standard, or Enterprise Edition). In order to use these other SQL Versions, you must purchase this software separately from Microsoft® or a Microsoft reseller. Install Autodesk Data Management Server with the default MSDE first and then determine the need to upgrade to the full SQL server.

Visit www.autodesk.com/vault for more information about system requirements, or the Autodesk® Installation online Help.

NOTE See "SQL Server Upgrade" if your system will exceed 10 simultaneous clients.

Operating System Requirements

The following operating systems are supported for Autodesk Data Management Server:

- Microsoft® Windows® 2000 Server (SP4)

- Microsoft® Windows® 2003 Server Standard (SP0, SP1, SP2)
- Microsoft® Windows® 2003 Server Enterprise (SP0, SP1, SP2)
- Microsoft® Windows® 2003 Server x64 Edition (SP0)
- Microsoft® Windows® 2000 Professional (SP4)
- Microsoft® Windows® XP Professional (SP1, SP2)
- Microsoft® Windows® XP Professional x64 Edition (SP0)

Operating System	Service Pack Level	Autodesk® Product-stream™ and Vault Explorer	Autodesk® Vault for Microsoft® Office	Data Management Server
Microsoft Windows XP Home	SP1, SP2			NO
Microsoft Windows XP Professional (2)	SP1, SP2	YES	YES	YES
Microsoft Windows 2000 Professional (2)	SP4	YES	YES	YES
Microsoft Windows 2000 Server	SP4			YES
Microsoft Server 2003 Standard	SP1, SP2			YES
Microsoft Server 2003 Enterprise	SP1, SP2			YES
Microsoft Windows XP Profes-	None	YES	YES	YES

Operating System	Service Pack Level	Autodesk® Product-stream™ and Vault Explorer	Autodesk® Vault for Microsoft® Office	Data Management Server
Windows XP Professional x64 Edition (1)				
Microsoft Server 2003 x64 Edition	None			YES
For CAD related add-ins, the system requirements are that of the design application.				
NOTE Autodesk Inventor® 11 and Autodesk Vault 5 software are supported to run as 32-bit applications on 64-bit extended systems (Windows XP Professional x64 Edition operating system running on Intel EM64T or AMD64 family of processors). AutoCAD® Mechanical 2007 and Autodesk® Mechanical Desktop® 2007 are not supported on 64-bit extended systems.				

Hardware Requirements

The following are minimum, recommended, and preferred requirements for running Autodesk Data Management Server. If possible, meet the *preferred* requirements.

Recommended Hardware

- Pentium 4, Xeon, Athlon 2GHz
- 1 GB memory or higher
- 60 GB disk space

		Autodesk Product-stream and Vault Explorer	Data Management Server	Total: Clients and Server
Minimum	Disk Space	500 Mb	2 GB	10 GB

		Autodesk Product- stream and Vault Explor- er	Data Manage- ment Server	Total: Clients and Server
	Memory	256 Mb	512 Mb	1 GB
	Processor	Pentium 4, Xeon, Athlon, 1.0 GHz	Pentium 4, Xeon, Athlon, 1.0 GHz	Pentium 4, Xeon, Athlon, 1.0 GHz
Recommended	Disk Space	500 Mb	60 GB	10 GB
	Memory	1 GB	1 GB	1.5 GB
	Processor	Pentium 4, Xeon, Athlon, 1.0 GHz	Pentium 4, Xeon, Athlon, 2.0 GHz	Pentium 4, Xeon, Athlon, 2.0 GHz
Preferred	Disk Space	4 GB	120 GB	10 GB
	Memory	1 GB	2 GB	2 GB
	Processor	Pentium 4, Xeon, Athlon, 2.0 GHz	Pentium 4, Xeon, Athlon, 2.0 GHz	Pentium 4, Xeon, Athlon, 3.0 GHz

Other Requirements

- Either a CD or DVD drive is required depending on which media your software is delivered.
- Internet connection for Web downloads and Subscription Aware access.
- Microsoft® Internet Explorer 6 SP1 or later.
- Autodesk recommends settings that allow Microsoft Windows to manage virtual memory as needed. There should always be at least twice as much free hard disk space as system memory.

Web Services Software

Web services enable clients to communicate with the server. Autodesk® Web Server (AWS) is included with Autodesk Data Management Server but offers limited capability. Microsoft® Internet Information Services (IIS) provides expanded capability.

Autodesk Web Server

Autodesk Web Server allows a single client installed on the same computer as the server to access the server. This is useful for a single-user installation on a single computer, or for evaluating one of the Autodesk data management solutions. In this situation, Autodesk Web Server can be used as a substitute for Microsoft Internet Information Services (IIS).

NOTE If IIS is not installed on the computer that will host the server and you require more than a single-user installation, you must install IIS before you install Autodesk Data Management Server.

Microsoft Internet Information Services

Autodesk Data Management Server requires IIS for anything more than a single-user installation. Before the server is installed, a check is performed to verify the presence of IIS. If IIS is not detected, it must be installed prior to installing the server.

NOTE You may need the original Microsoft Windows installation CD to complete the IIS installation.

Install IIS on the server

- 1 On the Start menu, click Settings ► Control Panel.
- 2 In the Control Panel dialog box, double-click Add or Remove Programs.
- 3 In the Add or Remove Programs dialog box, click Add/Remove Windows components.
- 4 In the Windows Components Wizard, scroll to and then select Internet Information Services (IIS). Only the default set of IIS components are

required for Autodesk Data Management Server. There is no need to select additional components.

- 5 If needed, insert the original Microsoft Windows installation CD into the CD drive on the server. Click Next. The IIS Windows components are installed.

System Configuration

Autodesk strongly recommends the server configuration described in this document. If you believe your system is better suited to a different configuration, we recommend that you consult with your Autodesk reseller for a professional installation, and check the Autodesk Knowledge Base for any additional information regarding the upgrade.

Server Configurations

There are many ways to set up a vault server and its related clients. The most robust way is to install the Autodesk Data Management Server on a separate computer dedicated to the server and allow the appropriate clients to communicate with the server.

NOTE A single, dedicated server means that other competing business applications do not interfere with the operation of the Autodesk Data Management Server. Other applications known to interfere are Microsoft® Exchange, using the computer as either an Internet or intranet server, and other data management and document management systems.

Maintenance Considerations

There are many other ways to configure and install Autodesk Data Management Server; however, the single-server model is the solution recommended by Autodesk for the following reasons:

Installation and Configuration

When using a single computer to host all server software, there are far fewer parts to diagnose should any problems arise. Few tools are currently available to diagnose different configurations, thus increasing guesswork.

Performance

When clients access data from the server, the data is located and then passed back to the client. This process will perform the best when all data is stored on a single machine reading files directly from the local disk.

Backup and Restore

Backing up data is much more efficient on a single server machine. Because the backup process involves extensive data transfer between components, keeping the components as close to each other as possible improves performance and reliability of the backup process.

Reliability

In general, the more parts added to the system, the less reliable it becomes and the more troubleshooting it requires.

Determining Vault Configurations

Before installing Autodesk Vault, determine the installation scenario best suited for your company. Examples of scenarios are:

- A single design team
- Multiple design teams
- A single user

If you install a system that is too small, it can limit functionality or require reconfiguration in the future. There are several key factors to help you determine a scenario:

- Number of users in design team
- Number of design teams
- Availability of a network
- Availability of a server separate from user workstations
- Need to centrally administer vaults

After you choose the appropriate scenario for your situation, continue by installing and configuring the software components.

Working with Design Teams

When two or more users are actively sharing files on a design project, they constitute a design team. Designate a team member as the project leader. The team leader is responsible for the initial setup of the vault.

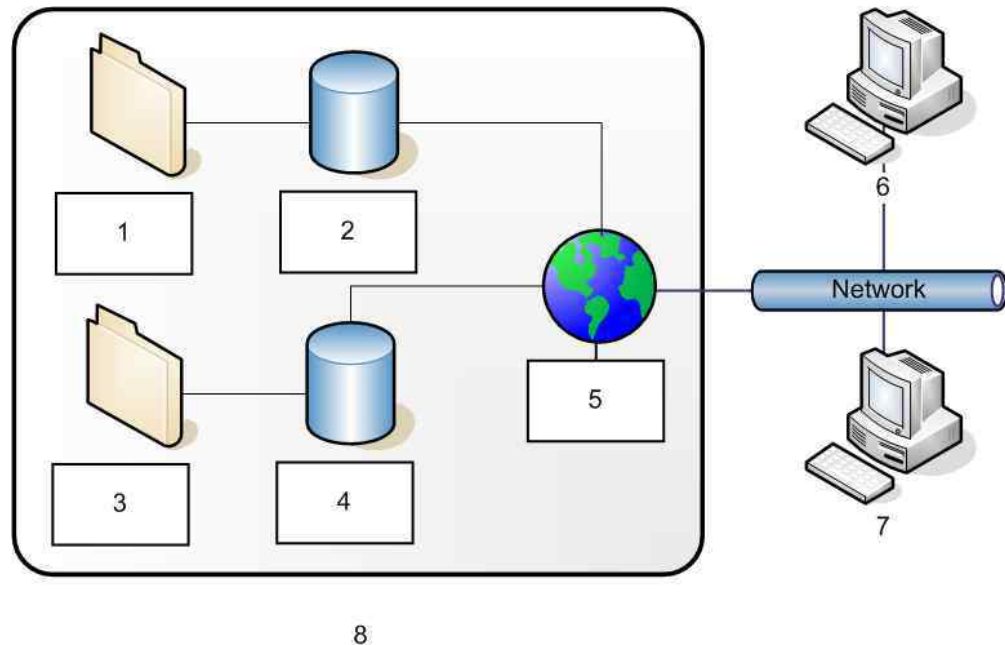
Key characteristics of a design team configuration:

- Network required (Windows file sharing capabilities, no domain required).
- A separate server is recommended for optimal performance, although one of the user computers can be used.
- Autodesk Data Management Server components can reside on a Windows server operating system or on a Windows desktop operating system.

Key Characteristics of a multiple design team configuration:

- Two to three design teams that work independently of one another, and do not share files across teams.
- Network required (Windows file sharing capabilities, no domain required).
- A separate server is recommended for optimal performance. Installation of Autodesk Inventor is not required on the server.
- Autodesk Data Management Server components reside on a Windows server operating system.

To set up multiple design teams, use multiple instances of the scenario for a single design team, or install the Autodesk Data Management Server components on a server separate from the user workstations. Each team member has the Autodesk Vault client components installed locally.



- 1. File Store "A"
- 2. Database "A"
- 3. File Store "B"
- 4. Database "B"
- 5. Web Server
- 6. Vault Client (Windows XP Pro Preferred)
- 7. Vault Client (Windows XP Pro Preferred)
- 8. Single Autodesk Data Management Server (Windows 2003 Server Preferred)

Working as a Single User

A single user working in a non-collaborative or isolated environment can install and run Autodesk Data Management Server components and Autodesk Vault client components on the same workstation.

NOTE When working in a single user environment, it is not necessary to have Microsoft Internet Information Services (IIS) installed. You can use the Autodesk Web Service included on the installation CD.

Key characteristics of a single user configuration:

- Single user (or multiple single users).
- Network not required.
- Separate server not required.

Vault Configurations

Depending upon the requirements of your business, you can configure your system with a single vault, or multiple vaults. The pros and cons of each are discussed next.

NOTE Using a single vault is the recommended method.

Single Vault Configuration

A vault is created automatically when Autodesk Data Management Server is installed. Typically, use a single master vault for holding all of the design data for a design team, since data and folder mappings cannot be shared across vaults.

Multiple Vaults

Autodesk Data Management Server can manage multiple vaults. A vault is a separate storage repository, similar to having multiple hard drives on a computer. The following section details benefits and downsides of using more than one vault.

Multiple Vault Advantages

You might choose to create additional vaults for the following purposes:

- To provide training areas where users can feel free to experiment without interfering with the main vault. It is possible to create a new vault for each user for training purposes, deleting the extra vaults when they are finished.
- To create additional vaults for test purposes, where users can test vault procedures without affecting the main vault.
- To create a separate vault for each customer, isolating data such as templates, standards, and project information for clients who each have separate libraries and shared content.
- To support different departments or individual teams working separate projects that do not need to share data.

Multiple Vault Disadvantages

The most important thing to remember when working with multiple vaults is that the data is completely separate and can never be merged. The only way to combine two or more vaults is to remove data from one vault and manually add it to the other, resolving any conflicts that may occur.

SQL Server Upgrade

Consider upgrading to full SQL Server if either the following conditions exist:

- The number of simultaneous users is greater than 10.
- The size of the SQL database file for a single vault is approaching 2 GB.

NOTE It is important to monitor the size of the MSDE database file. If you find your database file approaching 1.5 GB you should consider either purging old file versions from the vault, removing unwanted properties from the system or plan to upgrade to full SQL Server. Information about purging old file versions and removing unwanted properties is available in the Autodesk Vault Manager Help.

There are two supported methods for upgrading or installing SQL Server for use with Autodesk Vault:

- Upgrading MSDE to full SQL Server.
- Installing Autodesk Data Management Server on an existing AUTODESKVAULT SQL instance.

Both methods can be found in the *Autodesk Vault Advanced Configuration Guide*, accessible on the Autodesk Web site. Both methods are supported; however, the recommended and simplest method is to upgrade MSDE to full SQL Server.

Microsoft Windows XP SP2 Firewall

When running the Windows XP operating system, Service Pack 2 enables use of the Windows firewall for added security. The firewall must be configured to allow client access to the Autodesk Data Management Server.

Configure the Windows XP SP2 firewall

- 1 From the Windows Start menu, click Control Panel.
- 2 Double-click Security Center and then Windows Firewall.
- 3 In the Windows Firewall dialog box, click the Exceptions tab, and then click Add Port.
- 4 In the Add a Port dialog box, enter the following information:
Name: Vault
Port: 80
- 5 Ensure that TCP is checked.
- 6 Click OK.

Advanced Configurations

For more information about configuring Autodesk Data Management Server, see the *Autodesk Data Management Server Advanced Configuration Guide* available in the online knowledge base at www.autodesk.com. The *Autodesk Data*

Management Server Advanced Configuration Guide covers advanced topics such as:

- Upgrading from Autodesk Web Server to IIS
- Managing a remote file store
- Changing settings in configuration files
- Operating Vault on an existing SQL server instance
- Upgrading MSDE to full SQL server
- Running Vault with SSL
- Troubleshooting deployment issues

Server Installation

If you are installing the Autodesk Data Management Server from the Autodesk Inventor 11 installation media, refer to the *Autodesk Inventor 11 Installation Reference Guide* included with the media.

Insert the Autodesk Inventor or Autodesk Inventor Professional CD disk 1 into the CD drive. From the Front End Universal Installer for Autodesk products, click the Autodesk Inventor or Autodesk Inventor Professional Products Installation, and then click Autodesk Inventor 11 Autodesk Inventor Professional 11 to begin the installation. In the Describe your working environment dialog box, select, I want to make this machine the ADMS server.

If you are installing the Autodesk Data Management Server from either the Autodesk Vault 5 or Autodesk Productstream 5 installation media, follow the guided steps in the installer.

Server Checks

When starting the Autodesk Data Management Server installation, a series of checks is performed to verify that the operating system is configured properly. For a complete list of the conditions that are checked prior to installation and additional information, see the installer online Help. If any conditions require action, the installer Help includes directions for resolving the issue.

Begin Pre-installation Checks

Pre-installation checks run automatically to verify the requirements of the host computer to which the server is being installed.

- If all of the checks pass, the installation can continue.
- A warning indicates that there is the potential for a problem during installation. If the installation does not continue as a result of a warning, corrective actions might be necessary before proceeding.
- If action is required, click the corresponding link for help on how to resolved the issue and then re-check the configuration.

The results are displayed by the installation wizard indicating which conditions have passed, generated a warning, or failed. A text report, *PreChecks.xml*, is written to your current TEMP directory. Typically, this is: *C:\Documents and Settings\[user]\Local Settings\Temp\EDMLog\Server*. Should it be necessary to seek assistance, the report can be forwarded to your IT staff or to Autodesk.

View Pre-installation Reports

In the Autodesk Data Management setup, click View Report. An *.xml* file that includes the version of the operating system, the data and the time of the installation, the machine name of the computer, and the complete results of the pre-installation checks is displayed.

Repeat Pre-installation Checks

If the pre-installation report indicates one or more warnings or failures requiring corrective action, perform those actions and then run the pre-installation checks again.

In the Autodesk Data Management setup, click Re-check. The conditions are checked again and the report window is updated to reflect the new results. If all of the checks pass or there are any warnings that can be ignored, click Next. If any of the checks fail, make the necessary corrections and then click Re-check.

Finish Installation

You are prompted to register your license of Autodesk Data Management Server. An Internet connection is required to register. Enter the required information and then click Next. If you do not have an Internet connection, you can register your software on the Web at www.autodesk.com/vaultregistration.

You are prompted to view the *Readme* file, view the Autodesk Vault Administration Guide *.pdf* file, and to launch Autodesk Vault Manager. Make your selections, and then click Finish

When Autodesk Data Management Server is installed, a vault and a user account are created. The name of the vault is “Vault”. The account name is “administrator”. No password is assigned to the account and the name is not case sensitive. The administrator account has full administrator privileges.

See chapter 6 for how to create additional user accounts and perform maintenance on the Autodesk Data Management Server.

See chapter 5 for how to log into the Autodesk Data Management server using a client application.

Upgrade to Autodesk Data Management Server 5

3

One of the first steps to a successful deployment is to assess your organization's needs and ability to move to the next version. The checklists provide a starting point of some of the major areas that you should consider before moving to a new release.

In this chapter

- [Requirements](#)
- [Testing](#)
- [Migration](#)
- [Before You Upgrade](#)
- [Install Autodesk Data Management Server 5](#)

Requirements

In this section, hardware and software requirements are listed in the form of checklists with which you can catalog your current system configuration. Additionally, a question and answer form is provided to help you assess your business requirements.

Hardware

The Autodesk® data management products have a server component and can support many client computers. Determine if the current computers meet the system requirements for the new release.

Understand the distinction between minimum, recommended, and preferred configurations. Minimum system requirements are suitable for testing or evaluation. Strongly consider using hardware that meets the recommended or preferred requirements for the planned system if you are supporting multiple users or using the system in production work.

Category	Current Configuration
CPU	
Memory	
Free Disk Space	

Software

If you are planning on using the new version or Autodesk® Vault or Autodesk® Productstream™ with a previous release of a CAD tool, then ensure that your client software is supported. In general, the data management products support the current CAD release and the previous CAD release. Check www.autodesk.com to make sure that your specific CAD tools are supported.

Category	Current Configuration
Autodesk Inventor®	

Category	Current Configuration
AutoCAD® Mechanical	
AutoCAD® Electrical	
AutoCAD®	
Operating System - Server	
Service Pack - Server	
Operating Systems - Clients	
Service Packs - Clients	

Business Requirements

One of the most important factors in determining how you want to approach upgrading your data management system is to understand the needs of your organization.

Question	Answer
Is the data in your vault critical to your organization?	
How long can you wait until the system is upgraded and available? Hours? Days?	
Are you rolling out any other software upgrades to your organization along with Autodesk Vault or Autodesk Productstream?	
Will you need to migrate any data that is already in a vault to a newer file format?	

Question	Answer
(NOTE: This is different from migrating a vault itself)	

Testing

After assessing the hardware and software, determine whether you need a test environment. If you have any unanswered questions, or determine that the data management system is critical to your business, consider setting up a test environment before upgrading to the next release of Autodesk Vault or Autodesk Productstream.

NOTE Using a second “test environment” is a best practice.

Test Environment

If possible, perform a test upgrade of the data management server on a machine that is similar to the one that is currently hosting the software. A test upgrade provides confidence that the backup is valid and helps you identify any potential pitfalls without impacting your production environment. It also helps you to determine compatibility with other applications and environment settings that your company uses.

Test Machine Settings	Benefits
Similar CPU, memory, disk space	Provides an estimate of how long the migration might take. Gives insight in to any migration settings such as time-out values that need to be changed. Shows other configuration settings that may require changes.
Database	Test machines that need to access a vault that is 2GB or more will also need to have a similar version of full Microsoft® SQL server installed.

Test Machine Settings	Benefits
Other applications that are installed on the production server	Test for compatibility with various proxy clients, firewalls, anti-virus programs, etc.
Operating System, Service Packs, firewalls, etc.	Compatibility testing.
Microsoft® Windows® Administration settings	Check for compatibility with Windows Domain policies, login scripts, permissions and other settings.

Migration

Autodesk Vault Manager can migrate a vault from one release to another using two methods:

- Migrate in place.
- Migrate through a temporary vault.

Migrating in place works on the current vault and performs the upgrade to the existing data. Migrating through a temporary vault creates an intermediary data store.

Vault Manager upgrades sequentially. For example, if you are upgrading from Vault 3 to Vault 5, Vault Manager will first upgrade your data to the Vault 4 format before upgrading your data to the 5 version. Most of this activity is behind the scenes and you will only see one upgrade.

The table below shows some examples of how Vault and Productstream perform migration.

Starting Point	End Version	Intermediate
Vault 2	Vault 4.0	version > V3, V3 > V4
Vault 3	Vault 4.0	V3 > V4
Vault 3	Productstream 2	V3 > PS2

Starting Point	End Version	Intermediate
Vault 3	Productstream 4	V3 > V4 > PS4
Vault 3	Productstream 4.5	V3 > V4 > PS4 > PS4.5
Vault 4	Productstream 4.5	V4 > PS4 > PS4.5
Productstream 2	Productstream 4	PS2 > PS4
Productstream 4.0	Productstream 4.5	V4 > PS4.5

If you are migrating from any versions of Vault earlier than Vault 4, then you will likely encounter a migration that involves a temporary vault. If this is the case, ensure that there is disk space available to accommodate the temporary vault. The amount of disk space required is approximately 4 times the size of the *.mdf* file. Locate the *.mdf* file for the database being migrated in *%SYSTEMDRIVE%\Program Files\Microsoft SQL Server\MSSQL\$AUTODESKVAULT\Data*. For a database named Vault, the file is *Vault.mdf*.

Before You Upgrade

When upgrading from a previous version of Autodesk Data Management Server 5, first back up your data and then uninstall and delete the components described in this section.

These are the steps required to completely remove Autodesk Data Management Server 4. Always create a backup of your vault data before uninstalling. Be careful to follow the steps outlined below in the order given.

Uninstall Components

Before uninstalling any components, back up existing vault and library data. Restore the backed up data on a test environment to verify that it can be successfully restored before proceeding.

NOTE Depending on your configuration, you may not find some of the components listed below. If they do not appear in the Windows Add or Remove Programs utility, skip the item.

- Autodesk Data Management Server 4 or earlier
- Autodesk Vault 4 or earlier (if the server and clients are on the same computer)
- Autodesk Office Add-in (if the server and clients are on the same computer)

NOTE Do NOT uninstall the SQL server.

Install Autodesk Data Management Server 5

Once you have backed up the vault and library data, restored the backup on a test environment to verify it works, and removed previous versions of the Autodesk Data Management server and clients, you can install Autodesk Data Management Server 5. See chapter 2 for instructions on installing the server.

During the installation, any existing databases and file stores are detected. You are prompted to migrate the data following the installation.

Migrate existing vault data

- 1 From the Windows Start menu, select Programs ► Autodesk ► Autodesk Data Management ► Autodesk Vault Manager.
- 2 The unmigrated vault is indicated with a yellow warning sign. Select the non-migrated vault.
- 3 Select Actions ► Migrate.
- 4 You are prompted to stop the web service if it is currently running. Click Yes to continue. A progress bar indicates the selected vault is being migrated.
- 5 When the migration is done, click OK.

NOTE Vaults from Autodesk Data Management Server versions 1.0 and 1.3 cannot be migrated. An Autodesk Productstream vault cannot be migrated for use with Autodesk Vault.

4

Installing Autodesk Data Management Clients

The Autodesk data management clients include the integrated add-ins for applications such as Autodesk® Inventor and AutoCAD®, as well as the stand alone clients Autodesk® Vault Explorer and Autodesk® Productstream™. Add-in clients are available for Autodesk® and non Autodesk design applications. Once the Autodesk® Data Management Server is installed, the clients can be installed.

In this chapter

- [Vault Client Requirements](#)
- [Client Installation](#)

Vault Client Requirements

Autodesk Vault clients that integrate with an Autodesk design application require a licensed installation of Autodesk Inventor® Series, Autodesk Inventor® Professional, AutoCAD, AutoCAD® Mechanical, AutoCAD® Electrical, or Autodesk® Mechanical Desktop®. Refer to the hardware and software requirements for each product.

The clients work in conjunction with the Autodesk Data Management Server. The Autodesk Data Management Server must be installed and configured before the clients can access the server.

NOTE Autodesk Vault 5 clients are not compatible with previous versions of Autodesk Data Management Server. If you are upgrading to Autodesk Vault 5, all server and client components must be upgraded.

Operating System

- Microsoft® Windows® 2000 Professional (SP4)
- Microsoft® Windows® XP Professional (SP1, SP2)
- Microsoft® Windows® XP Professional x64 Edition (SP0)
- Microsoft® Windows® XP Home (SP1, SP2) - Only supported with the AutoCAD add-in.

Recommended Hardware

- Pentium 4, Xeon, Athlon 1GHz
- 1Gb memory or higher
- 500Mb disk space

NOTE Although the Autodesk Vault clients can be installed on the same computer with Autodesk Data Management Server, it is recommended to install Autodesk Data Management Server on a dedicated computer.

Before installing

- Close all Autodesk and Microsoft applications prior to installation.
- Disable any virus scanning software prior to installing.

- Previous versions of clients are not compatible with Autodesk Data Management Server 5. Installing Autodesk Data Management Server 5 requires that all clients are upgraded to version 5.
- The recommended screen resolution is 1024x768 or higher. Large font settings in lower screen resolution settings may affect clarity of dialogs.

Client Installation

The Autodesk Data Management clients are available on the product installation media as well as on the Autodesk Vault 5 media.

If the Autodesk Vault Add-in for Microsoft® Office was shipped with your software and one or more of the following Microsoft products is installed and registered on your machine, it will be automatically installed.

- Microsoft® Word 2000/XP/2003
- Microsoft® Excel 2000/XP/2003
- Microsoft® PowerPoint® 2000/XP/2003

NOTE To install the Autodesk Vault clients, you must have either Microsoft Windows administrator privileges or power user privileges.

Installing the clients for an Autodesk design application

- Insert the Autodesk design application's installation media and follow the instructions for the installation wizard.

Installing the clients for a non Autodesk design application

- Insert the application's installation media and follow the instructions for installing the software.

Installing clients from the Autodesk Vault 5 CD

- 1 Insert the Autodesk Vault 5 CD.
- 2 Navigate to the server folder and double-click *setup.exe*.
- 3 Follow the instructions in the installation wizard.

Add-in Integration

If a design application is already on the computer before the clients are installed, the corresponding add-in clients automatically integrate with the design applications when they are installed. However, if an application is installed after the data management clients, go to the Control panel and repair the data management application to install the missing add-in.

First Log In

When Autodesk Data Management Server is installed, a vault and a user account are created. The name of the vault is “Vault”. The account name is “administrator”. No password is assigned to the account and the name is not case sensitive. The administrator account has full administrator privileges.

NOTE If a user account has already been created for you, log in using your user name and password.

Log into Autodesk Data Management Server the first time

- 1 Use one of these methods:
 - On the Start menu, click Programs ➤ Autodesk ➤ Autodesk Data Management ➤ Autodesk Vault Explorer.
 - On the Start menu, click Programs ➤ Autodesk ➤ Autodesk Data Management ➤ Autodesk Productstream.
 - In an application with an integrated add-in, click File ➤ Autodesk Data Management Server ➤ Log In.
- 2 In the Log In dialog box, verify the following:

User name	The name for the vault account.
Password	The password associated with the vault account.
Server	The name of the computer on which the vault server is installed.
Database	The name of a vault database located on the specified server. The default is “Vault”. Click the browse button to select from a list of available databases on the server.
- 3 A default user ID, vault server, and database are set up for you to get started using the vault right away. If a user account has already been

created for you, use your own account information. If a user account has not been created for you, or the default values are not present, contact your vault administrator.

- 4 Use either the default values or, if an account has been created for you, use your own account information. The default values are:

- 5 User Name: Administrator

Password: empty

Server: Name of the computer on which the vault server is installed. Use "localhost" if the server is installed on the same machine as the client.

Database: Vault

- 6 Click OK.
- 7 You are logged into the vault.

-
- 8 **NOTE** You have the option to save the account information to automatically log into the vault the next time.
-

Managing Autodesk Data Management Server

5

This chapter contains the procedures for Autodesk® Data Management Server administration and management.

In this chapter

- [About Autodesk Vault Manager](#)
- [Performing Vault Maintenance](#)
- [Backing Up Vault Data](#)
- [Managing User Accounts](#)
- [Managing Vaults](#)
- [Re-Indexing the Server](#)
- [Full Content Indexing](#)
- [Managing Content Center Libraries](#)
- [Learning and Training](#)

About Autodesk Vault Manager

A vault consists of three primary components:

- Vault master database
- Vault database
- File store

The vault master database stores the records for users of the system, the vaults to which they have access, and a global list of vaults and Content Center libraries.

The vault database stores information, such as file names, user names, properties, and file relationships.

The file store is a directory structure that contains the actual data files. Autodesk® Vault Manager includes tools for maintaining databases and file stores.

NOTE Never directly move, delete, or edit a file in the file store.

All database and file store maintenance should be performed using Autodesk Vault Manager. The administrator's interface for maintaining the vault file stores and databases. Tasks include backing up and restoring data, creating new vaults, and purging old data. The administration utilities in Autodesk Vault Manager are also available from the command line. You can use the command line in conjunction with scripts to create custom schedules and automated maintenance tasks.

NOTE A database consists of an *.mdf* file and an *.ldf* file. These two files must be kept together for a vault to work correctly.

You must log into Autodesk Vault Manager with a vault account that has been assigned the Administrator role. In order to perform most vault maintenance, you must also have SQL administrator privileges. For more information about vault maintenance, command line options, and SQL administrator privileges, see the Autodesk Vault Manager Help.

Start Vault Manager

- 1 From the Windows® Start menu, select Programs ► Autodesk ► Autodesk Data Management ► Autodesk Vault Manager.

- 2 In the Log In dialog box, enter the user name and password for the vault administrator account.
- 3 Click OK.

Performing Vault Maintenance

Many vault and Content Center library maintenance operations require the Web service to be stopped. When Web service is stopped, clients cannot connect to a vault or library and any current communication with the database is lost. Ensure that no users are connected to the vault or library before performing any maintenance. Users cannot begin using a vault or library again until the Web service is restarted.

NOTE Always alert users prior to stopping Web service. The Web service enables communication between the Autodesk Data Management Server and client applications. If the Web services are turned off on a server, clients connecting to that server lose communication with the server.

The following Vault Manager operations require that the Web service is stopped:

- Backup
- Restore
- Attach Vault
- Attach Library
- Delete Vault
- Delete Library
- Detach Vault
- Detach Library
- Import Library
- Export Library
- Move File Store
- Detach Master Vault
- Purge

- Re-index
- Content Indexing

When performing any of these operations, you are prompted to stop the Web service if you have not already done so. click Yes to stop the Web service or click No to cancel the operation. Restart the Web service once you are done with maintenance. If you exit Autodesk Vault Manager without restarting the Web service, you are prompted to start it.

Stop Web service

- 1 Click File ► Stop Web Service. A message appears confirming that the Web service has stopped.
- 2 Click OK.

Start Web service

- 1 Click File ► Start Web Service. A message appears confirming that the Web service has started.
- 2 Click OK.

Backing Up Vault Data

Backing up vault data is essential. The following are recommendations for backing up Autodesk Vault.

Use the supplied backup-restore utility

Use Autodesk Vault Manager to backup all data necessary to restore a server if a failure occurs. With the Vault Manager command line options, you can create a script to automate the backup process. When backing up and restoring the Autodesk Data Management Server, no users can access any vault on the server. When you back up a vault, all users are blocked from accessing the system. In addition, Autodesk Vault Manager backs up or restores all vaults on the server. There is no way to select individual vaults to back up or restore.



Develop a Backup Schedule

The next step is to automate the process. Two common methods are:

- Using the Windows Task Scheduler - this process uses the backup tools included with Vault Manager as part of a standard Windows batch file.
- Including the backup as part of a tape backup set - this process uses a tape back up system to back up the vault directly or to use a method similar to the Windows Task Scheduler.

The preferred and most reliable method for backing up a vault is to integrate the Vault Manager backup tools into your tape backup plan.

The following text should work as is for a default installation. Edit the backup paths and installation paths as needed.

Automate backup using Microsoft Windows Task Scheduler

- 1 Create a new text file called *Backup.txt*.
- 2 Insert the following text:
@ECHO OFF
REM THIS WILL STOP THE WEB SERVER AND "CYCLE" THE SQL SERVER
REM PROVIDING THE BEST RESULTS FOR BACKING UP THE VAULT
START /W IISRESET /STOP
NET STOP MSSQL\$AUTODESKVAULT
NET START MSSQL\$AUTODESKVAULT
REM DELETE B AND CASCADE A BACKUP SUBDIRECTORIES
RMDIR /Q /S "C:\Backup\Vault\B"
REN "C:\Backup\Vault\A" "B"

```
REM CREATE A NEW DIRECTORY FOR THE BACKUP
MKDIR "C:\Backup\Vault\A\"
REM START THE BACKUP PROCESS (THIS IS ONE LINE OF TEXT)
START /W "C:\Program Files\Autodesk\Data Management Server 5
VaultManager\Connectivity.VaultManager.exe" -Obbackup
-B"C:\Backup\Vault\A" -VUadministrator -VP
REM START THE WEB SERVER
IISRESET /START
```

- 3 Change the name of the text file to *Backup.bat* to convert it to a batch file.

Create a Tape Backup

There are different ways to use a tape backup system to back up a vault. Autodesk recommends integrating the Vault Manager backup tools into your tape backup plan. Many systems allow you to run a script before and after the tape job executes. To back up a vault using a tape backup system, use the following scripts before and after the job runs.

NOTE Autodesk does not recommend using backup software to back up the SQL database and file store directly. This method increases the difficulty of migrating to a new release of Autodesk Data Management Server or restoring a vault on a new machine. In addition, never back up the SQL Server using the "live" backup plug-ins that are available for major tape backup systems. You must ensure the file store and SQL data are perfectly in sync with each other. Failure to do so may render your data unusable.

- 1 Run the following script before your tape backup job starts:
@ECHO OFF

REM THIS WILL STOP THE WEB SERVER AND "CYCLE" THE SQL
SERVER
REM PROVIDING THE BEST RESULTS FOR BACKING UP THE
VAULT

IISRESET /STOP

NET STOP MSSQL\$AUTODESKVAULT

NET START MSSQL\$AUTODESKVAULT

REM START THE BACKUP PROCESS (THIS IS ONE LINE OF TEXT)

```
"C:\Program Files\Autodesk\Data Management Server  
5\VaultManager\Connectivity.VaultManager.exe" -Obbackup  
-B"C:\Backup\Vault\A" -VUadministrator -VP
```

- 2 Run the following script after your tape backup job completes:

```
@ECHO OFF  
  
REM DELETE THE BACKUP SET AFTER THE TAPE SET COMPLETES  
  
RMDIR /Q/S C:\Backup\Vault\A"  
  
REM START THE WEB SERVER  
  
IISRESET /START
```

- 3 Validate the Tape Backup

To ensure that your backup set will restore properly, test both the backup and the backup procedures. Autodesk recommends that you install the Autodesk Data Management Server on a separate computer and test a full restore of the data using the Restore command in Vault Manager.

Restoring a Vault from a Back Up

- 1 Stop the Web services.
- 2 Click Tools ► Restore.
- 3 Restoring a vault deletes the current data sets and file store. This action cannot be undone. You are prompted for confirmation before proceeding. Click Yes.
- 4 Select whether you are restoring a directory or a file.
- 5 In the Restore from directory field, specify the location of the backed up data. To browse for a location, click ... and locate a directory using the file browser.
- 6 Select whether the database is to be restored to the original location or to a different location. If you choose Select Restore Location, specify a target directory for the database. This may be necessary when restoring data to a different machine that doesn't have the same drive letters or locations available.
- 7 Select whether the file store is to be restored to the original location or to a different location. If you choose Select Restore Location, specify a target directory for the file store.

- 8 Click OK.

The vault data is automatically migrated when it is restored using Vault Manager. If you are restoring the data using the command line, you must migrate the data after it is restored.

NOTE Back up files created from the Autodesk Data Management Server installed with using Autodesk® Productstream™ cannot be restored to an Autodesk Data Management Server installed with Autodesk Vault.

Managing User Accounts

The vault is a secure database. Before anyone can use a vault, the administrator must add accounts for users and grant levels of permission within the vault using roles.

For more information about users, roles, and managing accounts, see Autodesk Vault Manager Help.

Adding or Editing a User Account

Create a user account and grant vault access

- 1 Click Tools ► Administration.
- 2 In the Administration dialog box, click Users.



- 3 In the User Management dialog box, click New User.



- 4 In the New User dialog box, enter the information for the new user:
- First name
 - Last name
 - User name
 - Email address



- 5 Enter a password and confirm it.
- 6 Click Roles and assign one or more roles to the account. Roles determine the level of access to the vault.
- 7 Click Vaults and select one or more vaults for the account to access.
- 8 Select the Enable User check box. Until the account is enabled, it is not available for use and cannot access the vault

Repeat this process for each new user account needed. Each new user is granted access to the selected vaults on the server.

Edit a user account

- 1 To edit an existing user's account, double-click a user's profile in the User Management dialog box. Or highlight a user's profile, and then click Edit User.
- 2 In the User Profile dialog box, edit the information for the current user.

- 3 To edit the password, enter a new password and then confirm the new password.
- 4 Click Roles to edit the user's roles.
- 5 Click Vaults to edit the user's access to vaults.
- 6 Click OK.

NOTE Each user logs into the vault with a unique user name and password. Restrict access to the administrator account to only the assigned vault administrator.

Assigning Roles

Assign a role to a user account

- 1 Select Tools ► Administration.
- 2 In the Administration dialog box, click Users.
- 3 To assign roles to a user for the first time, click New User.
- 4 In the New User dialog box, select one or more roles, and then click OK.
- 5 In the Add Roles dialog box, select one or more roles, and then click OK.
- 6 To edit an existing user's role, double-click a user's profile in the User Management dialog box.
- 7 In the User Profile dialog box, click Roles.
- 8 In the Add Roles dialog box, select or cancel the selection of one or more roles.
- 9 Select the Enabled check box. Until the account is enabled, it is not available for use and cannot access the vault.
- 10 Click OK.

More than one role can be assigned to a user account. The permissions are a union of the assigned roles.

NOTE The Content Center Administrator, Content Center Editor, and Content Center Reviewer roles are specific to Content Center and should not be altered.

Granting Vault Access

Grant user access to a vault

- 1 Select Tools ► Administration.
- 2 In the Administration dialog box, click Users.
- 3 To grant a user access to one or more vaults for the first time, click New User.
- 4 In the New User dialog box, click Vaults.
- 5 In the Add Vaults dialog box, select one or more vaults, and then click OK.
- 6 To edit access to a vault, double-click a user's profile in the User Management dialog box.
- 7 In the User Profile dialog box, click Vaults.
- 8 In the Add Vaults dialog box, select or cancel the selection of one or more vaults.

Disabling a User Account

Disable a user account

- 1 Select Tools ► Administration.
- 2 In the Administration dialog box, click Users.
- 3 In the User Management dialog box, double-click a user's profile you want to disable, or highlight the user account and click Edit User.
- 4 In the User Profile dialog box, clear the check box of the Enable User.
- 5 Click OK.

Managing Vaults

A vault is created automatically when Autodesk Data Management Server is installed. Typically, use a single vault for holding all of the design data for a

design team, since data and folder mappings cannot be shared across vaults. However, you may want to create additional vaults for:

- test purposes so users can become familiar with vault procedures without affecting the main vault
- contractors may want to use multiple vaults to isolate data from completely independent clients who each have separate libraries and shared content

Create a vault

- 1 In Vault Manager, click Vaults.
- 2 Click Actions ► Create Vault.
- 3 Enter a name for the new vault. The name cannot contain certain special characters.
- 4 The file store can be located in a default location, or a new location can be specified. Click OK to create the new vault with the default file store location or click Select File Store Location to specify a new location and then click OK.

NOTE The default path for the file store is C:\Documents and Settings\All Users\Application Data\Autodesk\VaultServer\FileStore.

Deleting Vaults

Vaults that are no longer in use can be deleted. Before deleting any vault, back up the data.

- 1 In Vault Manager, click Vaults.
- 2 Select a vault to delete.
- 3 Click Actions ► Delete Vault.
- 4 You are prompted to verify your actions. Click OK.

Moving File Stores

While it is recommended to keep all of the Autodesk Data Management Server components on a single machine, the file store can be moved from its existing location to another location. To move a file store to a location on a remote machine, see “Managing a Remote File Store” in the Advanced Configuration Guide available in the appendix of this document, or on the online Vault Knowledge Base.

NOTE Use only Autodesk Vault Manager to move a file store.

Attaching and Detaching Vaults

Detaching a vault disconnects it from the server so it can be moved to another location. The detached vault should not be moved off of the machine hosting the SQL server. Before detaching the master vault database, you must detach all other databases. The vault and its log file are detached. The names of the files for a vault named Vault are:

- *Vault.mdf*
- *Vault_log.ldf*

After the vault is detached, you can move the two corresponding files. The *.mdf* and *.ldf* files must be kept together. Attaching a vault reconnects the set of vault files that were moved to the database engine.

NOTE After re-attaching the database, the Autodesk Data Management Server user accounts must be edited to have access to the re-attached vault. To avoid editing the user accounts, back up the database and restore it to a new location.

Detach a vault

- 1 Ensure that no users are accessing the vault and then stop the Web service.
- 2 In Vault Manager, select a vault from the main view.
- 3 Click Actions ► Detach.
- 4 You are prompted to confirm your actions. Click Yes.

Detach the master vault

- 1 Ensure that no users are accessing the vault and then stop the Web service.
- 2 Click Tools ► Detach Master Vault.
- 3 You are prompted to confirm your actions. Click Yes.

NOTE You must detach all other databases before detaching the master vault.

Attach a vault

- 1 Select the Vaults folder.
- 2 Click Actions ► Attach.
- 3 In the Attach Vault dialog box, enter the name of the data file (*.mdf*) or click the browse button to locate the file.
- 4 Enter the name of the log file (*.ldf*) or click the browse button to locate the transaction log file.
- 5 Enter the name of the file store or click the browse button to locate the file store.
- 6 Enter the name of the vault.
- 7 Click OK.

For more information on detaching and attaching vaults, see the Autodesk Vault Help or visit the Autodesk Web site, www.autodesk.com, and search for support document TS81609.

Purging Vault Data

To help maintain drive space and to minimize file store size for better performance, you can purge old file versions and out-of-date information from the vault. You specify the conditions that must be met in order for a file version to be kept in the vault. Versions that do not meet the specified criteria are then removed from the vault.

Basic rules of purging

- The latest version cannot be purged. To remove a file and all of its versions from a vault, use Delete.

- File versions linked to items in Autodesk Productstream cannot be purged. To remove a version linked to an item, the item must first be deleted from the item master.
 - File versions that are labeled cannot be purged.
 - Locked files cannot be purged.
 - If a file to be purged is checked out, an extra version is maintained.
 - Children with a dependent parent version cannot be purged until the parent version has been purged.
- 1 Stop the Web services.
 - 2 Select a vault from the main view.
 - 3 Click Actions ► Purge.
 - 4 In the Vault Version Purge dialog box, turn on the check box next to each of the selection rules to determine the data to be purged:
 - Versions except latest** Specify how many file versions to leave in the vault.
 - Versions older than days** Specify how old the files to purge should be.
 - Exclude versions where comment contains:** Enter a text string contained within the Comments field of the files in the vault. Any files containing this string will be excluded from the purge process.
 - 5 Click OK.

Re-Indexing the Server

Re-Indexing the server extracts the properties from all the files in the vault. Typically, this indexing process happens when a file is first added to the vault or when an updated version is checked in. From time to time it may be necessary to re-index the entire vault to:

- Add new properties to the vault that were previously unknown to the system.
- Remove unwanted properties from the vault that are no longer needed, in turn saving space in the SQL Server database.

The Autodesk Data Management Server utilizes a technology created by Microsoft® called iFilters. iFilters are small applications that exist on the server containing a set of instructions on how to open and extract property data from files. A few iFilters are installed with Autodesk Data Management Server by default and other exist with the operating system. There are also many third party iFilters available for other file formats. An Internet search for "iFilter" will return some of the filters that other software developers have published.

The iFilters that are included by default index the following file types:

- AutoCAD® .dwg
- Autodesk® Inventor
- 3D Studio Max
- Microsoft® Office

Adding New Properties

When a new iFilter is installed, the vault database must be re-indexed to recognize the related properties. After, run the Re-Index command to extract the new property data from all of the files in the vault, including the historical versions.

NOTE Some iFilters create actual properties that are searchable and can be displayed as columns in the vault. Others only index file contents which are searchable, but cannot be displayed as a column. For more information on searching file contents, see the next section "Full Content Indexing".

Removing Unwanted Properties

Autodesk Data Management Server automatically extracts all the possible properties it can from the system, making them available to users. It may become necessary over time to remove some of these properties from the system to either prevent users from accessing them (reducing clutter) or to actually reduce the amount of space that SQL Server uses to store these properties.

Removing properties from the system requires first using Autodesk Vault Explorer or Autodesk Productstream's "File Properties" management inside of the administration tools.

After configuring the properties display via the "In Use/Not in Use" settings, you are able to re-index the vault, removing any property from the system that was marked "Not In Use"

Property maintenance should be performed occasionally. If for any reason you decide at a later time that a previously removed property is needed again, you can mark the property "In Use" and re-Index the database again.

For more information on re-indexing properties and property maintenance, see the Autodesk Vault Manager Help.

Full Content Indexing

Full content indexing is the ability to index the actual file contents of many different document types. For example, reading simple text on a *.dwg* file or finding all occurrences of a word in Microsoft Word documents.

Enabling Full Content Indexing

By default, full content indexing is not enabled. Full content indexing can be enabled per vault on the Autodesk Data Management Server.

- 1 In Autodesk Vault Manager, select a vault from the navigation pane.
- 2 Select Actions ► Content Indexing Service.
- 3 In the Content Indexing Service dialog box, select Yes, enable Content Indexing Service.
- 4 You are prompted to stop the Web service for this operation. Click Yes.

Microsoft Indexing Service

Unlike the standard property indexing performed by the Autodesk Data Management Server, full content indexing is done using the Windows Indexing Service. The Windows Indexing Service is enabled by default.

If the Windows Indexing Service needs to be installed

- 1** From the Windows Control Panel, double-click Add or Remove Programs.
- 2** In the Add or Remove Programs dialog, click Add/Remove Windows Components.
- 3** In the Windows Components Wizard, turn on the Indexing Services check box and then click Next.
- 4** When the component is installed, click Finish.

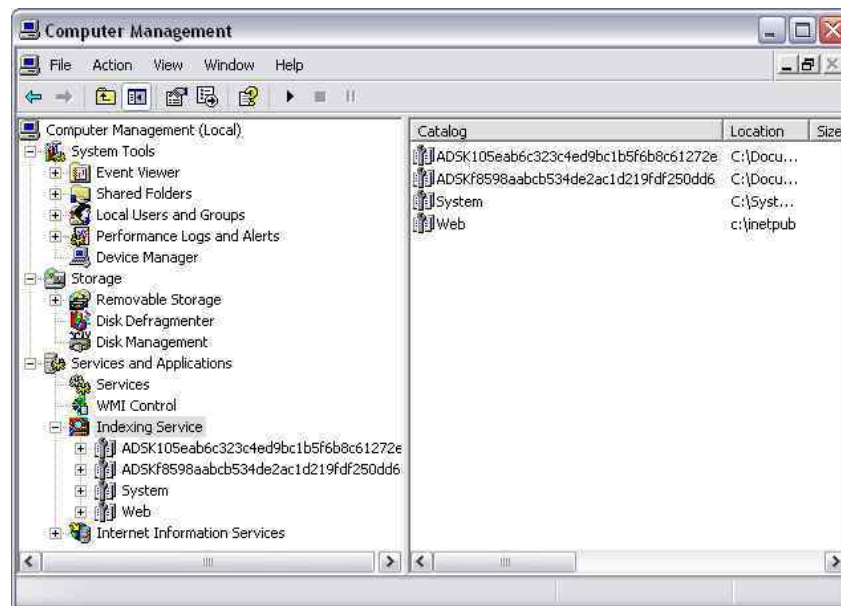
When you enable the full content indexing for a vault, a new catalog is created in the Index Server prefixed with ADSK. This is the repository for indexed contents.

The Microsoft Indexing Service is implemented as a shared server, There is no degraded performance with check-in times nor will the database size increase. However, a full content search will take slightly longer to return results when compared to a more simple property based search.

NOTE Autodesk Vault Manager manages the Indexing Service under normal operation.

Access the Windows Indexing Service

- 1** From the Windows Control Panel, double-click Administrative Tools.
- 2** In the Administrative Tools window, double-click Computer Management.
- 3** In the Computer Management dialog box, expand Services and Applications ► Indexing Service.



Managing Content Center Libraries

In addition to hosting vaults, Autodesk Data Management Server also hosts Content Center libraries. Use Autodesk Vault Manager to perform Content Center Library administrator tasks.

For information on installing Content Center libraries, refer to the Content Center Installation Guide available on the Autodesk Inventor 11 installation CD, disk 1.

Maintaining Libraries in Autodesk Vault Manager

Run Autodesk Vault Manager on the machine hosting the libraries.

Autodesk Vault Manager displays the list of Content Center libraries currently installed on the server.

NOTE An MDF and an LDF file comprise one library and need to be maintained as a pair for both Import and Export.

Use Autodesk Vault Manager to create, manage, and delete libraries. Using the Backup command, you can create a back-up of an existing library on the server. Select a library from the list to manage it.

A Content Center library is contained within a SQL Server (MSDE) database. On disk, this database is stored using a pair of files with the extensions MDF and LDF. These files together comprise one library and need to be maintained together.

Creating a New Library

You can create a new read-write or read-only Content Center library, which can be configured for use in either a local or an Autodesk Inventor project that accesses the Content Center libraries from a central server.

Create a library

- 1 In Autodesk Vault Manager, select Libraries folder in the navigation pane.
- 2 Click Actions ► Create Library.
- 3 Enter a name for the new library.
- 4 Click OK.

Deleting a Library

Deleting a library detaches the selected library from the database server, and deletes the data files (*.mdf* and *.ldf*) from the hard disk. All data contained in the library is permanently deleted.

Delete a library

- 1 In Autodesk Vault Manager, select a library you want to delete in the navigation pane.
- 2 Click Actions ► Delete Library.
- 3 Click OK.

Attaching a Library

Use Attach to make a Content Center library available on the server from a pair of existing *.mdf* and *.ldf* data files already on the computer.

Attaching a library

- 1 In Autodesk Vault Manager, select Libraries in the navigation pane.
- 2 Click Actions ► Attach Library.
- 3 Click the browse button, and locate the *.mdf* file you want to attach. The *.ldf* file will automatically be attached.
- 4 In the Attach Library dialog box,
- 5 Click OK.

Detaching a Library

Detaching a library removes a Content Center library from the list of available libraries in the Autodesk Vault Manager. Detach does not delete its data files (MDF and LDF) from the server. The data files can be re-attached and made available at a later time using the Attach command, or can be manually copied to another location, for example, to be backed up, or moved to another machine.

Detaching a library

- 1 In Autodesk Vault Manager, select Libraries in the navigation pane.
- 2 Click Actions ► Detach Library.
- 3 Click the browse button, and locate the *.mdf* file you want to detach.
- 4 Click OK.

Exporting a Library

Export copies a set of library files (*.mdf* and *.ldf*) that are in the Autodesk Vault Manager to a specified location. You can specify a folder on the same machine, or a location available on the network.

Export a library

- 1 In the Autodesk Vault Manager navigation pane, select a library you want to export.
- 2 Click Actions ► Export Library.
- 3 In the Browse for Folder dialog box, specify the location you want to export the *.mdf* file to, and click OK.

Importing a Library

Import copies library files (a pair of MDF and LDF files) into the standard SQL Server (MSDE) data files directory, and then performs an attach operation to register them with SQL Server and make them available as a Content Center Library. For example, use Import to copy library files from a 3rd party supplier to the Content Center Library you are administrating

Import a library

- 1 In the Autodesk Vault Manager navigation pane, select a library you want to import.
- 2 Click Actions ► Import Library.
- 3 In the Browse for Folder dialog box, locate the *.mdf* file you want to export, and click OK.

Library Summary

Highlight a library to display high-level information about the library and its data files in the main pane.

Library Status

Right-click on a library in the browser and select Read-Only to toggle the status of a library to be marked as Read-Only or Read-Write. You cannot change the status of a default read-only libraries installed with Autodesk Inventor.

Content Center Permissions

If you require editing permissions for one or more Content Center libraries, you must have a Content Center Editor account set up for you in Autodesk Vault Manager.

Accounts are not required for users who only need read-only access to the Content Center library.

To create Content Center library user accounts in the Autodesk Vault Manager

- 1 In Autodesk Vault Manager, click Tools ► Administration.
- 2 In the Administration dialog box, click Users.
- 3 In the User Administration dialog box, click New users.
- 4 In the New User dialog box, enter the desired information for the user. Click the Roles button to assign the user a Content Center role.
- 5 Select Content Center Editor to assign editing permissions.
- 6 Click Vaults to assign the user to a vault. You must assign a user to a vault even if you are not using Autodesk Vault Explorer. This is required in order to log into the Autodesk Data Management Server in Autodesk Inventor to access the Content Center libraries.
- 7 If needed, click Groups to assign the user to a group (optional).
- 8 Click OK.
- 9 In the User Management dialog box, and then in the Administration dialog box, click Close.
- 10 Communicate user account information and the Login procedure to each member in the team.

Learning and Training

Before getting started and rolling out an Autodesk data management solution to all the users in your group, we advise that you learn the basics and understand your deployment approach. Since Autodesk Vault can affect multiple users, you will want to make sure that the deployment goes as smoothly as possible.

Learning to Use Autodesk Vault

NOTE It is recommended that all users go through training from an Autodesk Authorized Training Center in addition to the steps below.

As a first step to learning to use Autodesk Vault, refer to the tutorials that are included in with the Autodesk Vault Help. There is a tutorial for each of the design application add-ins. These tutorials are accessible from the respective Help menus in the design application.

Search the Autodesk Knowledge Base:

- Knowledge Base www.autodesk.com/vault-support

More online information about Autodesk Data Management Server and client applications:

- Autodesk Inc. www.autodesk.com
- Autodesk Vault www.autodesk.com/vault
- Autodesk Productstream www.autodesk.com/productstream
- Autodesk Discussion Group www.autodesk.com/discussiongroup-vault

NOTE Autodesk sponsored discussion groups are a forum where Autodesk customers and industry partners can ask questions and share information about Autodesk products. Discussion group topics will be publicly available worldwide. You are welcome to participate by posting questions or providing input or answers to questions from other users.

Training Other Users

As previously mentioned, when training other users on Autodesk Vault, we advise that you use a new, personalized vault for learning purposes. Since a new vault is 100% independent of others, there is no risk that their learning process will interfere with production data.

Performance Tuning

A

There are several ways to enhance the overall performance of Autodesk Vault and Productstream. Before proceeding, it is recommended that you read the “Understanding Vault Architecture” topic in this guide.

In this chapter

- [Key Terms](#)
- [Tuning Vault Server Performance](#)
- [Vault Client Performance](#)

Key Terms

Term	Definition
Performance Tuning	Monitoring and analyzing the performance of a system and adjusting its configuration to obtain optimum performance.
Operating System	The software that the rest of the software depends on to make the computer functional. On most PCs this is Windows or the Macintosh OS.
Memory	It is a set of storage locations on PC's main circuit board.
Disk Defragmentation	A utility included with the Windows operating system that coalesces files on the hard drive, freeing up disk space.
Anti-virus Program	A program that searches for viruses and removes any virus that it finds.
Proxy Server	Existing between a client Web browser and a real server, a computer that caches common and often requested Web pages and holds them for easier access by users.
Customize View	A command in Productstream or Vault Explore to customize the information shown in the display grid.

Tuning Vault Server Performance

Operating System

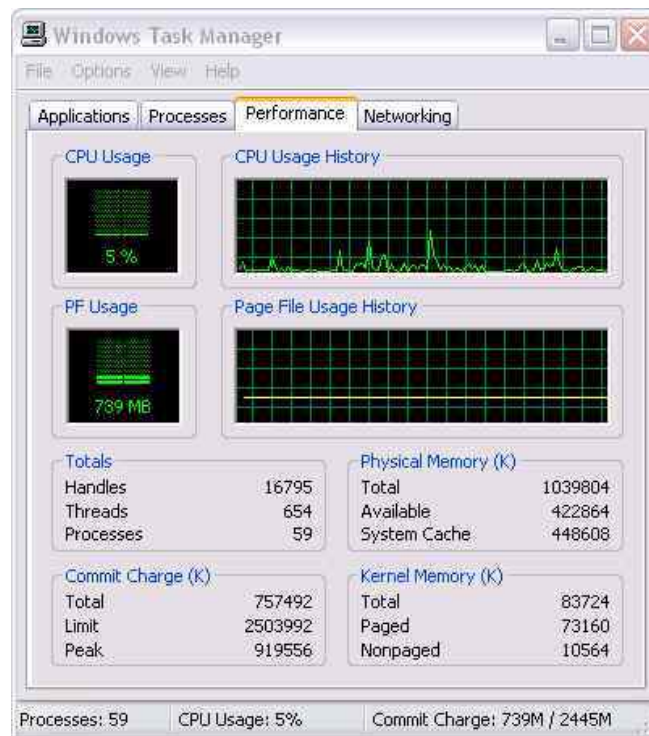
A dedicated server operating system such as Microsoft® Windows® 2003 Server or Microsoft Windows 2000 Server is preferable to workstation operating systems such as Microsoft Windows XP Professional or multi-purpose server operating systems such as Microsoft Windows Small Business Server 2003.

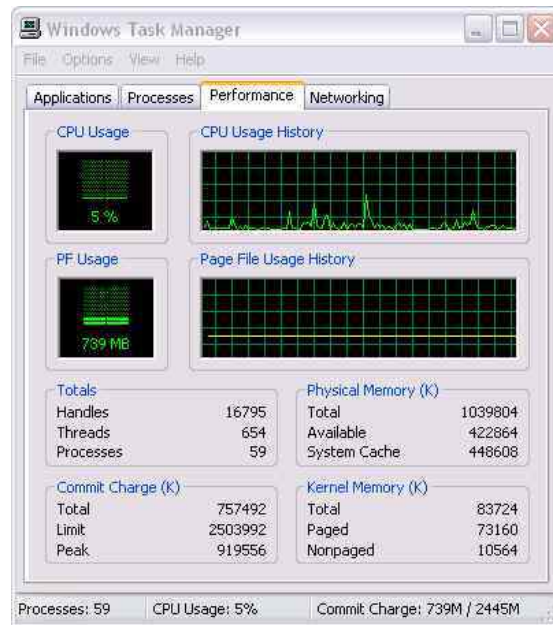
Server Memory

In order to determine whether the server has enough available memory, some key factors must be considered: the size of your data and the number of users concurrently accessing the Vault Server. If Productstream is being used, the number of users concurrently accessing the Item Master should be considered as well.

View memory usage

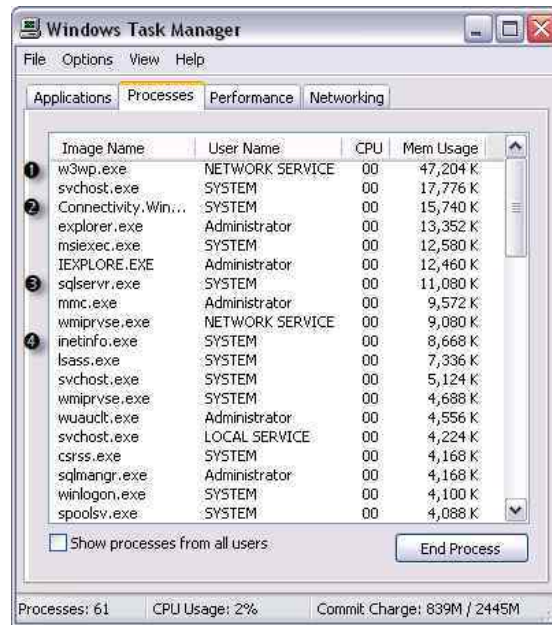
- Invoke the Task Manager by right-clicking in the Taskbar or pressing CTRL+ALT+DEL.



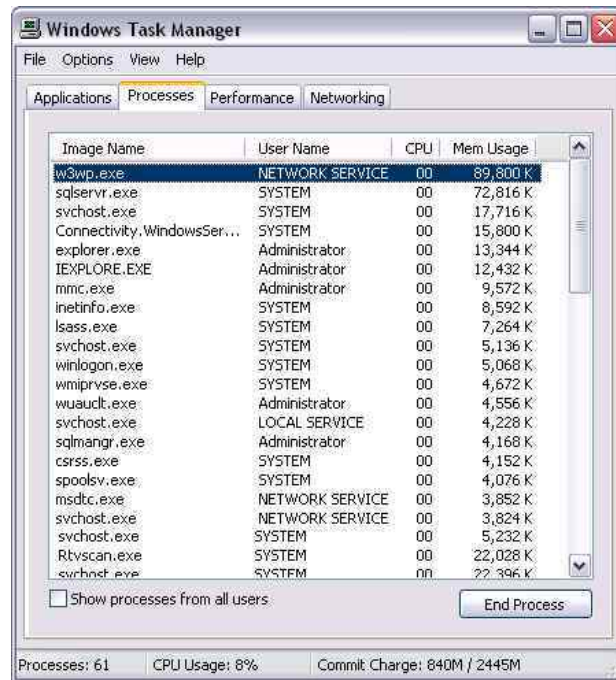


If the Commit Charge Total regularly exceeds the total amount of physical memory, it is likely that many of the programs and processes on the server are using the disk-based swap file excessively. Using the swap file is much slower than using physical memory. Windows uses the swap file for many tasks, so a small amount of swap file usage will not cause any problems.

- If you suspect that your server has an inadequate amount of memory, check the Commit Charge Total value. Clicking the Processes tab will reveal more details on the memory usage of all programs or processes.



- After adding a large amounts of data, the memory usage is shown in the following figure:



In general, SQL Server memory will grow over time. This is because the database server is using memory as fast cache buffers for frequently used queries. As other programs request memory on the server, SQL Server will release memory as needed. Similarly, the IIS Worker Process (*w3wp.exe* in Windows 2003 server) keeps memory around for caching as well. When the system starts running low on physical memory, the operating system will try and reclaim some of this memory. In general, unless you have a large site with many users or large models, this will not need to be changed.

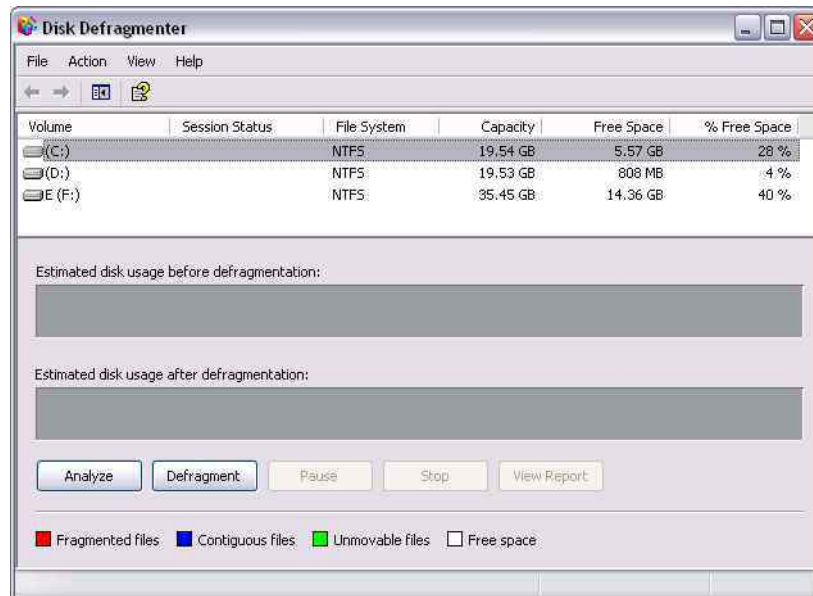
Disk Performance

Using multiple disks will generally enhance system performance. There are many types of disk technologies available, such as the Redundant Array of Inexpensive Disks (RAID). Choosing which type of disk technologies depends on the number of users, vault size, frequency of updates, etc. A more economical alternative to implementing a multiple disk system is looking at disk fragmentation. Disk fragmentation can greatly affect a vault server's

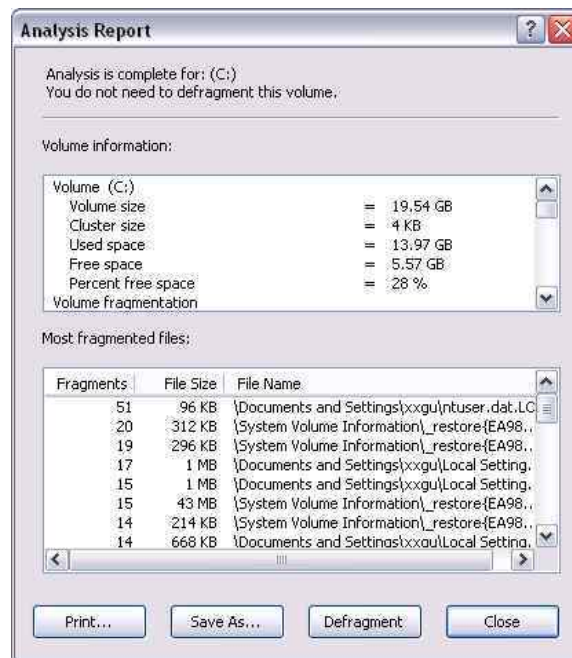
performance. Most Windows editions provide a disk tool that measures how the underlying files on your computer are stored on disk.

Running the disk defragmenter

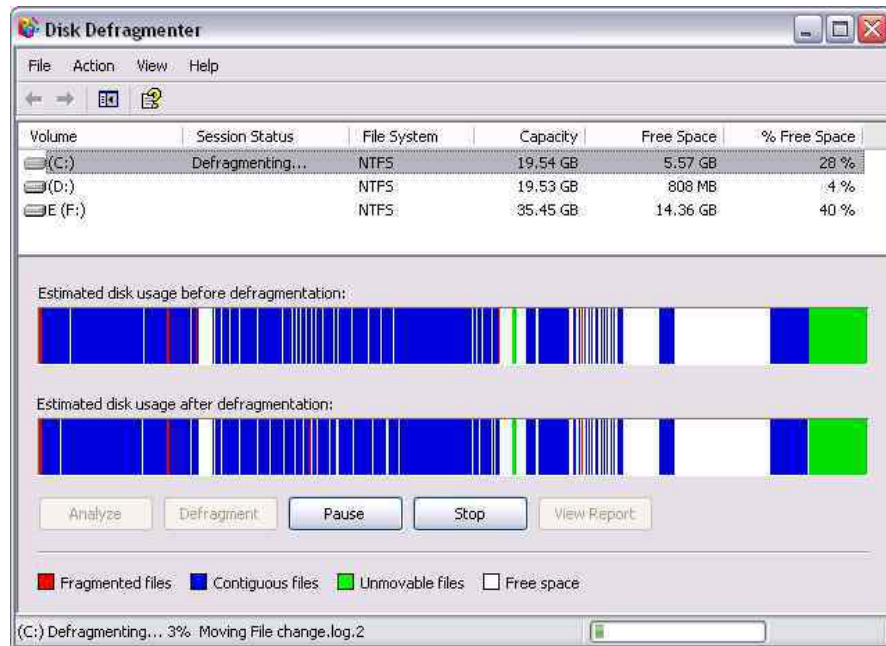
- 1 Click Start ► All Programs ► Accessories ► System Tools ► Disk Defragmenter.



- 2 Choose a disk (volume) and click Analyze. Following analysis, a report appears.



3 Click the Defragment button.



Aggressive Anti-virus Programs

Some types of Anti-virus programs scan data coming from the network and data being written to the file store. If your anti-virus software appears to be engaged for too long on vault operations, such as uploads, adjusting the scanner settings may help.

There is, of course, a trade-off between security and performance. Because of this, performing some test cases and benchmarks on your own data and server is recommended.

CPU

Faster or multiple CPUs can improve vault performance, but this is typically a more expensive option than the others and should mainly be considered after the other areas have been reviewed.

Vault Client Performance

Network Configuration

Vault servers generally perform better when clients have a directly routed connection to them. Certain types of web setups which use proxy servers or other similar Internet setups are usually of limited value in intranet setups. Bypassing the proxy server for addresses inside your corporate network is therefore recommended.

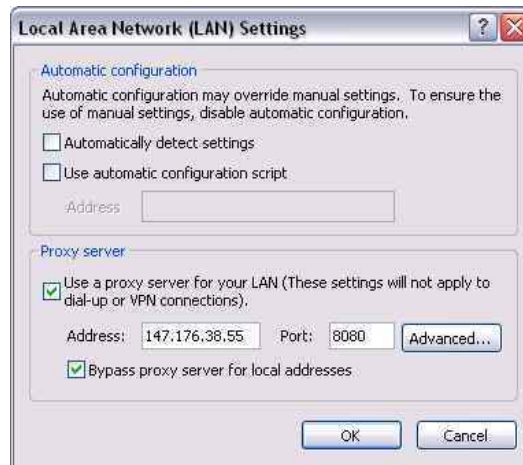
Customize Internet options in Windows Control Panel

- 1 Click Start ► Control Panel, and then double-click Internet Options. In the Internet Properties dialog box, click the Connections tab.



- 2 Click the LAN Settings button.
- 3 In the Local Area Network (LAN) Settings dialog box, if the option Use a proxy server for your LAN is selected, it means a proxy server is located

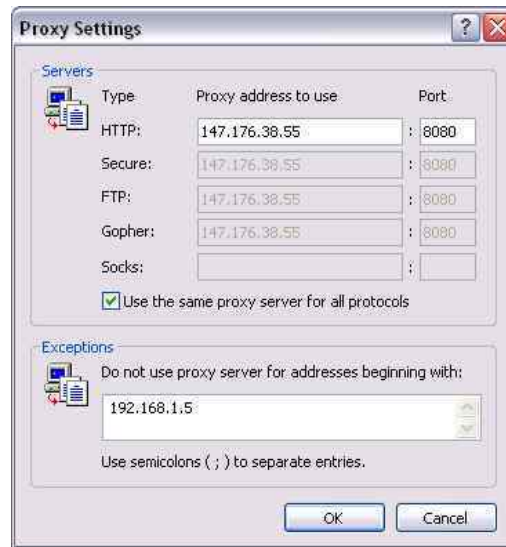
in your environment. Consider enabling the Bypass proxy server for local addresses by clicking this option.



You can also explicitly enter your server's Internet Protocol (IP) address in the bypass column.

Specify the server Internet Protocol (IP) address

- 1 In the Local Area Network (LAN) Settings dialog box, if a proxy server is specified in the Proxy server section. Click the Advanced button.
- 2 In the Proxy Settings dialog box enter your vault server address in the Exceptions field.



3 Click OK.

Client Settings

Certain settings within the client application can affect performance not only in the client, but in the Vault add-ins as well.

Customize View command

- This is a commonly used setting in the Productstream and Vault Explorer client programs. It is used to add additional information to display grids. Usually, this will not have much additional impact on performance. However, some display fields, such as the thumbnail property, may take a longer to display. Enabling these settings only on an 'as needed' basis can help to improve day-to-day performance.

Memory

Add-ins for design applications will consume additional memory. The amount of memory they consume is typically small. But, in certain circumstances, it makes sense to review the memory usage on the client. The most common

problems occur when the original client CAD model uses the majority of the computer's available memory before introducing a vault into the workflow. Please refer to the "Server Memory" section for additional instructions on how to review the memory usage on your systems.

Disk Performance

Like the server, client computers can suffer from disk fragmentation as well. The concept of analyzing disk fragmentation is the same for both clients and servers. Please find the "Disk Performance" section above.

Troubleshooting

B

Learn how to use the Autodesk® Server Diagnostics Tool or the Autodesk online Knowledge Base to solve problems that might occur when installing or using Autodesk Data Management Server.

In this chapter

- [Key Terms](#)
- [Server Diagnostics Tool](#)
- [Advanced Troubleshooting](#)

Key Terms

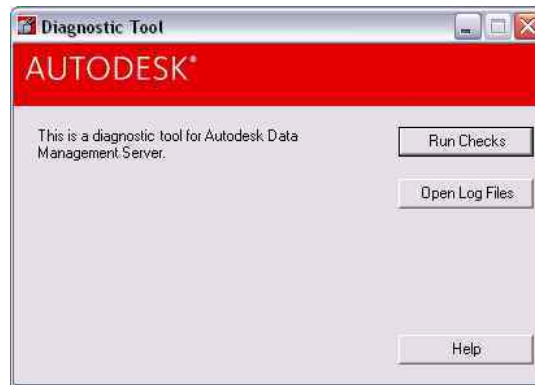
Key Terms	Definition
Autodesk Data Management Server Diagnostic Tool	A program that can performs a series of checks to identify possible Autodesk Data Management Server problems and gather system information to help diagnose the problem.
Autodesk Knowledge Base	An online support for all Autodesk products.
Autodesk Data Management Server	The server used in conjunction with Autodesk Vault, Autodesk Productstream, and Content Center for storing files and version data.
Log file	A text file generated by the Autodesk Server Diagnostic Tool containing important system configuration information.

Server Diagnostics Tool

The Autodesk Server Diagnostics Tool is a collection of tests that can help determine why a vault installation is not working properly. Changes to the server machine configuration over time can interfere with the Autodesk Data Management Server. The Autodesk Server Diagnostics Tool performs a series of tests to identify possible Autodesk Data Management Server problems and compiles system information to help diagnose the problem.

Run the diagnostics tool

- 1 From the Windows Start menu, select Programs ► Autodesk ► Autodesk Data Management ► Tools ► Autodesk Server Diagnostics Tool.



- 2 In the Diagnostics Tool Setup dialog box, click Run Checks.
When Checking, all the results of the diagnostic tests will be displayed in a list indicating which of the checks have passed successfully, have generated a warning, or have failed.



- If a warning is returned, click the link in the Warning list to get more information.
 - If any of the checks fail, click the link displayed under the Action Required list to learn more about the error.
- 3 When the diagnostics are complete, click Close and then click Open Log Files to open the directory containing the log files.

Learn more about an error and how to correct it

- In the Review Your Results list, click the error information under the Action Required list. It is linked to the corresponding pages of Autodesk Data Management Server Installation help.

View Diagnostic Log Files

The log file lists the name of each condition that is checked along with its information and test results. This includes the version of the operating system, the IIS information, the firewall and any other related configuration information.

Access the log file using one of the following methods:

- In the Diagnostics Tool Setup Box, click View Log File.
- At the bottom of the Review Your Results, click Click here to access the log file.
- Click the Open Log Files to open the directory containing all the log files and select certain log file to view.

The following log files are created:

Log File	Purpose
DiagTool_<date>.log	Diagnostic tool logs
Sys_Log_<date>.log	Windows system event log
App_Log_<date>.log	Windows application event log
CopyOfvlog-<date>.log	Most recent copy of Autodesk Data Management Server log (if available)

Should it be necessary to seek assistance, you can forward log files to your IT personnel or to Autodesk Technical Support.

Recheck Operating System Environments

After you correct all the errors according to the log files or online help, click Recheck. The Diagnostics Tool will again check the operating system. Repeat this process until the all errors are corrected.

Advanced Troubleshooting

Additional troubleshooting resources for the Autodesk Data Management System can be found online. They include a searchable Knowledge Base available on the Autodesk support page. You can access the Autodesk Knowledge Base online at www.autodesk.com.

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